

Data Documentation Template

This data documentation template is designed to assist BC analysts in recording the data and methodologies utilized in their BCA. BC analysts should keep in mind that a well-documented BCA means a knowledgeable subject matter expert (another BC analyst) should be able to re-create the BCA from the supporting documentation provided (with a Mitigation application submitted for funding) without any additional explanation. BC analysts should provide an electronic or paper copy of the full BCA to compliment any template or summary submitted to FEMA for review.

A **Data Source and Documentation Summary Chart** is provided at the end of the template chart for completion.

Wildfire Mitigation - FEMA Standard Analysis Methodology

Data Type	Value	Description	DOCUMENTATION	Source
Discount Rate	The OMB-mandated discount rate of 7% must be used for all BCAs.	<p>The discount rate determines the time-value of money</p> <p>In a FEMA benefit-cost analysis, a discount rate is used to calculate a value today (the Net Present Value) of future benefits so that they can be compared to the costs of a mitigation project.</p>	<ul style="list-style-type: none"> Electronic or paper copy of the BCA. The OMB-mandated discount rate of 7% must be used for all BCAs. 	<ul style="list-style-type: none"> The OMB-mandated discount rate of 7% must be used for all BCAs.
Sample area of similar fire hazard	Square miles	Select an area of similar wildfire or wildland/urban interface fire fuel type and topography. (Applicant enters data in square miles and module converts to acres).	<ul style="list-style-type: none"> At a minimum, reasoning for selecting the possible burn area must be mentioned in the narrative summary in the BCA module, along with a letter from a forester, local fire officer, or other credible source familiar with the area. Area selected can be depicted on a National Fire Hazard Map, an aerial photo. 	<ul style="list-style-type: none"> National Fire Hazard Maps, U.S. Bureau of Forestry, Fire-safety engineers, foresters, certified wildland/urban interface fire officials. U.S.D.A. Forest Service
Total acres burned in sample area in defined time period	Acres	Acres burned in the sample area selected above.	<ul style="list-style-type: none"> At a minimum, reasoning for selecting the possible burn area must be mentioned in the narrative summary in the BCA module, along with a letter from a forester, local fire officer, or other credible source familiar with the area. Area selected can be depicted on a National Fire Hazard Map, an aerial photo. 	<ul style="list-style-type: none"> National Fire Hazard Maps, U.S. Bureau of Forestry, Fire-safety engineers, foresters, certified wildland/urban interface fire officials. U.S.D.A. Forest Service
Number of years for the acres burned data.	Years	The time period used for the sample burn area.	<ul style="list-style-type: none"> Narrative summary in the BCA module should include the reasoning used to determine the years entered for the burn data. 	<ul style="list-style-type: none"> National Fire Hazard Maps, U.S. Bureau of Forestry, Fire-safety engineers, foresters, certified wildland/urban interface fire officials. U.S.D.A. Forest Service

Data Type	Value	Description	DOCUMENTATION	Source
Fire Hazard Data (Burn Recurrence Interval)	Years	The estimated time period for the entire sample area considered to experience a fire in each acre.	<ul style="list-style-type: none"> ■ If typical values in FEMA software are used, then provide print out of software. ■ If user-determined values are used provide full documentation of reasons for differences from FEMA typical values. 	<ul style="list-style-type: none"> ■ BCA Wildfire calculation ■ U.S.D.A. Forest Service ■ Local, County, State, or Federal fire-fighting agency.
Building value	Total dollar value	<p>The cost for labor and materials to build a similar building in the same place.</p> <p>A key determinant of the amount of damage from future fires.</p>	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include a justification for the building value entered into the module listing the credible source used to obtain the value. 	<ul style="list-style-type: none"> ■ Tax assessments, tax bills, local building inspector, contractor, builders or architect. ■ Standard references such as Marshall & Swift Residential Cost Handbook, or Means Square Foot Cost Guide referencing the types of buildings in the burn area under evaluation.
Contents Value	Expressed as dollars	<p>The cost to replace the contents of a building.</p> <p>Contents damage includes items like furniture, office equipment, personal belongings, and non-permanent room dividers.</p> <p>Contents do not include items that are permanent parts of the building such as electrical and plumbing systems.</p> <p>FEMA standard for residential buildings is 30% of the replacement value of the building.</p>	<ul style="list-style-type: none"> ■ If typical values in FEMA software are used then provide print out of software. ■ FEMA default value is 30% of building value for residential buildings. ■ If user-determined values are used provide full documentation of reasons for differences from FEMA typical values. 	<ul style="list-style-type: none"> ■ No source required if a residential building and FEMA standard is used. ■ Otherwise, review insurance records, signed appraisals, purchase receipts, estimates based on current market prices for similar contents.
Infrastruc-ture	Total dollar value	Value of potential infrastructure damaged or destroyed by fire.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include the reasoning used to determine the amount of infrastructure at risk before mitigation. ■ May also attach a letter, e-mail, etc. from credible agency documenting this estimate. 	<ul style="list-style-type: none"> ■ Party responsible for maintenance or protection of the area, most likely a local, county, or state agency such as the highway department or the fire department.
Timber value	Total dollar value	Value of potential lumber destroyed by fire.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include the reasoning used to determine the amount of timber at risk before mitigation. ■ May also attach a letter, e-mail, etc. from credible agency documenting this estimate. 	<ul style="list-style-type: none"> ■ Qualified agency like the U.S.D.A. Forest Service ■ Forester, qualified timber company representative, or other qualified official from a similar agency. ■ Owner of the property (must be supported with signed estimate)

Data Type	Value	Description	DOCUMENTATION	Source
Fire suppression costs	Total dollar value	Estimated costs for responding to and fighting the fire.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module include a justification of the fire suppression costs before mitigation. ■ May also attach a letter, e-mail, etc. from credible agency documenting this estimate. 	<ul style="list-style-type: none"> ■ Local, County, State, or Federal fire-fighting agency that fights wildland fires. ■ U.S.D.A. Forest Service ■ Owner of the property (must be supported with signed estimate)
Other (costs)	Total dollar value	Other costs associated with fire related losses.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include the reasoning used to determine any values entered in this cell. ■ Requires detailed explanation of source used and method applied. 	<ul style="list-style-type: none"> ■ Developing values may involve working with the agency providing service or estimating the loss or the property owner(s).
Number of residents	Number	Number of residents that would be impacted by a fire.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include source used and method applied to determine current population data for the community, county, or state. 	<ul style="list-style-type: none"> ■ Community, county, or state population official. ■ Current census, atlas, or other reference guide with population information.
Annual death rate per 1,000,000	Statistical value estimate	Estimated number of people killed by wildfires per year per 1,000,000 people.	<ul style="list-style-type: none"> ■ If typical values in FEMA software are used then provide print out of software. ■ If user-determined values are used provide full documentation of reasons for differences from FEMA typical values. 	<ul style="list-style-type: none"> ■ FEMA "What is a Benefit" guidance
Dollar value of a Casualty	Dollars (present year)	Estimated value of the loss of one person.	<ul style="list-style-type: none"> ■ If typical values in FEMA software are used then provide print out of software. ■ If user-determined values are used provide full documentation of reasons for differences from FEMA typical values. 	<ul style="list-style-type: none"> ■ FEMA "What is a Benefit" guidance
Dollar value for minor/ major injuries	Dollars (present year)	Average of the estimated values for the treatment of major and minor injuries per person.	<ul style="list-style-type: none"> ■ If typical values in FEMA software are used then provide print out of software. ■ If user-determined values are used provide full documentation of reasons for differences from FEMA typical values. 	<ul style="list-style-type: none"> ■ FEMA "What is a Benefit" guidance
Percent Reduction in damages, losses, and casualties	Percentage	<p>Amount of damage avoided by implementing the proposed mitigation action.</p> <p>One of the key determinants in this type of analysis.</p>	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include the reasoning used to determine the amount of damage avoided by proposed mitigation action. ■ May also attach a letter, e-mail, etc. from credible agency documenting this estimate. 	<ul style="list-style-type: none"> ■ Local, County, State, or Federal fire-fighting agency that fights wildland fires. ■ U.S.D.A. Forest Service ■ Owner of the property (must be supported with signed estimate)

Data Type	Value	Description	DOCUMENTATION	Source
Mitigation Project Useful Lifetime	Years	Estimated amount of time that mitigation action will be effective (includes any maintenance activities that will be done to prolong effectiveness).	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should include a justification of the value entered for the useful lifetime of the proposed mitigation action. ■ May also attach a letter, e-mail, etc. from credible agency documenting this estimate. 	<ul style="list-style-type: none"> ■ Local, County, State, or Federal fire-fighting agency that fights wildland fires. ■ U.S.D.A. Forest Service ■ Local, County, State, or Federal official specializing in vegetation removal and regrowth rates
Mitigation Project Cost	Total dollar value	Estimated total cost of the proposed mitigation action and any maintenance activities that will be done to prolong effectiveness.	<ul style="list-style-type: none"> ■ Narrative summary in the BCA module should state that this value comes from a potential or submitted project application. ■ Must document source and reasoning in estimate of maintenance activity cost. 	<ul style="list-style-type: none"> ■ Should support the value submitted with the project application. ■ For maintenance values, see Local, County, State, or Federal official specializing in vegetation removal

Wildfire Mitigation - FEMA Standard Analysis Methodology

Data Documentation Template – Data Source and Documentation Summary

Applicant (State):	
Sub-Applicant:	
Project Title:	

ITEM	DATA VALUE	VALUE USED IN BCA	DATA SOURCE	Documentation Included (Yes, No or NA)
Discount Rate	<i>The OMB-mandated discount rate of 7% must be used for all BCAs.</i>			
Sample area of similar fire hazard	<i>Square miles</i>			
Total acres burned in sample area in defined time period	<i>Acres</i>			
Number of years for the acres burned data.	<i>Years</i>			
Fire Hazard Data (Burn Recurrence Interval)	<i>Years</i>			
Building value	<i>Total dollar value</i>			
Contents Value	<i>Expressed as dollars</i>			
Infrastruc-ture	<i>Total dollar value</i>			
Timber value	<i>Total dollar value</i>			
Fire suppression costs	<i>Total dollar value</i>			
Other (costs)	<i>Total dollar value</i>			
Number of residents	<i>Number</i>			
Annual death rate per 1,000,000	<i>Statistical value estimate</i>			
Dollar value of a Casualty	<i>Dollars (present year)</i>			
Dollar value for minor/ major injuries	<i>Dollars (present year)</i>			
Percent Reduction in damages, losses, and casualties	<i>Percentage</i>			
Mitigation Project Useful Lifetime	<i>Years</i>			
Mitigation Project Cost	<i>Total dollar value</i>			